

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 6107

Tariff filing of Green Mountain Power Corporation )  
requesting a 12.9% rate increase, to take effect )  
June 22, 1998 )

PREFILED TESTIMONY OF  
BRUCE EDWARD BIEWALD  
ON BEHALF OF THE  
VERMONT DEPARTMENT OF PUBLIC SERVICE

Synapse Energy Economics, Inc.  
22 Crescent Street, Cambridge, MA 02138

September 18, 1998

Summary: Mr. Biewald's testimony addresses issues of excess capacity, used and useful, and the economics of GMP's purchase from Hydro Quebec.

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## **List of Exhibits**

Exhibit DPS-BEB-1	Resume of Bruce Edward Biewald
Exhibit DPS-BEB-2	GMP Load and Capacity Summary – Winter
Exhibit DPS-BEB-3	GMP Load and Capacity Summary – Summer
Exhibit DPS-BEB-4	GMP Load and Capacity Summary Dated November 14, 1996 (Provided in Response to IBM Question 1-104 in Docket No. 5983)
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Exhibit DPS-BEB-6	Excess Costs of GMP's Hydro Quebec Purchase: Four cases
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Prefiled Testimony  
of  
Bruce Edward Biewald

**1. Qualifications**

Q. State your name and business address.

A. My name is Bruce Edward Biewald. My address is Synapse Energy Economics, Inc.,  
22 Crescent Street, Cambridge, Massachusetts, 02138.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the Vermont Department of Public Service.

Q. Please describe your current employment.

A. I am President of Synapse Energy Economics, Inc., a consulting company specializing  
in economic and policy analysis of electricity restructuring, particularly issues of consumer  
protection, market power, stranded costs, renewables, efficiency, environmental quality, and  
nuclear power.

Q. What are your qualifications with regard to electric utility regulation and energy policy?

A. I graduated from the Massachusetts Institute of Technology in 1981, where I studied  
energy use in buildings. I was employed for 15 years at the Tellus Institute, where I was  
Manager of the Electricity Program, responsible for studies on a broad range of electric  
system regulatory and policy studies. I started Synapse in May, 1996, and since then have  
been working on electricity restructuring issues for clients including the New England  
Governors' Conference, the National Association of Regulatory Utility Commissioners, the  
Northeast States for Coordinated Air Use Management, and state consumer advocates or

1 attorneys general in Connecticut, Maine, Maryland, Michigan, Mississippi, and New  
2 Hampshire. I have testified on energy issues in more than fifty cases in regulatory  
3 proceedings in more than twenty states, two Canadian provinces, and before the Federal  
4 Energy Regulatory Commission. I have co-authored approximately one hundred reports  
5 including studies for the Electric Power Research Institute, the U.S. Department of Energy,  
6 U.S. Environmental Protection Agency, the Office of Technology Assessment, the New  
7 England Governors' Conference, the New England Conference of Public Utility  
8 Commissioners, and the National Association of Regulatory Utility Commissioners. My  
9 papers have been published in the *Electricity Journal*, *Energy Journal*, *Energy Policy*, *Public*  
10 *Utilities Fortnightly* and numerous conference proceedings, and I have made presentations  
11 on the economic and environmental dimensions of energy throughout the U.S. and  
12 internationally. My resume is provided here as Exhibit DPS-BEB-1.

13 Q. Have you previously testified before the Vermont Public Service Board?

14 A. Yes. I testified on behalf of the Department of Public Service in the state-wide  
15 restructuring docket (Docket No. 5854) and in GMP's last rate case (Docket No. 5983). I  
16 also prepared direct testimony for the Department that was filed in Central Vermont Public  
17 Service Company's current rate case (Docket No. 6018).

## 18 **2. Summary and Recommendations**

19 Q. What issues does your testimony address?

20 A. My testimony addresses issues of excess capacity and whether Green Mountain Power  
21 Company's ("GMP") Hydro Quebec purchase is used and useful.

22 Q. Please summarize your findings.

23 A. My key findings are:

- 1 • GMP's Hydro Quebec purchase represents excess capacity. With the 114 MW purchase,  
2 GMP's November 19, 1996 forecast shows excess capacity at time of winter peak  
3 through 2010/11 and excess capacity at time of summer peak through 2009. A partial  
4 update to that forecast suggests that the Hydro Quebec capacity is not fully needed to  
5 meet winter peak needs until about the year 2006/07.
- 6 • GMP's Hydro Quebec purchase is uneconomic. Estimates of the net economic losses  
7 presented in Exhibit DPS-BEB-6 range from \$79 million to \$269 million. These figures  
8 are 1997 cumulative net present value costs relative to market value, over the period 1998  
9 through 2015. The low end of the range assumes the DPS's "High Market Price"  
10 forecast and a discount rate at GMP's requested cost of capital, while the high end of the  
11 range is based upon GMP's own "current view" of long-term market prices and an 8.3%  
12 discount rate.
- 13 • Vermont's policy, articulated in a series of decisions including the recent GMP rate case,  
14 is to share uneconomic costs.
- 15 • The Board's policy of sharing uneconomic costs is a good one – it is fair and efficient.
- 16 • GMP's witness Reed offers prefiled testimony arguing against the application of an  
17 economic used and useful standard, quoting extensively from documents from other  
18 states, but offering little new information of any relevance to Vermont or GMP's Hydro  
19 Quebec contract.
- 20 • GMP's witnesses Oliver and Higgins present an analysis of the costs and benefits of  
21 GMP's Hydro Quebec contract that greatly exaggerates any environmental benefits of the  
22 contract, but even then fails to show significant net economic benefits for the contract.
- 23 • GMP's witnesses that address used and useful in this case (Reed, Oliver, and Higgins)  
24 present the same arguments made in testimony filed less than one year ago by GMP's  
25 witnesses in Docket No. 5983 (Levy, Laber, and Williamson).

- This is not an appropriate case for the Board to reexamine whether and to what extent GMP's Hydro Quebec purchase is used and useful, since there is no significant change in the contract or in market conditions to warrant another analysis.

Q. What then do you recommend with regard to a used and useful determination for GMP's Hydro Quebec purchase?

A. I recommend that the Board simply decline this opportunity to revisit its well-considered policy on used and useful, and the Board should decline to make a new finding with respect to the economics of GMP's Hydro Quebec purchase.

Q. Have you prepared new estimates of the costs and benefits of GMP's Hydro Quebec purchase since those you filed in Docket No. 5983.

A. No. The projections of the costs and benefits of GMP's Hydro Quebec purchase in my exhibits in Docket No. 5983 are reproduced here, with the same exhibit numbers (DPS-BEB-2 through DPS-BEB-8). I have not revised my calculations because nothing has changed to warrant revision.

### **3. GMP's HQ Purchase is excess capacity and large in relation to the size of the system**

Q. Is GMP's HQ purchase needed in order to serve load?

A. Partially. Without the 114 MW purchase, GMP would not have sufficient capacity to meet its current capacity requirement. However, the full 114 MW is not currently needed. The near term excess amounts to 59.0 MW at the time of winter peak (1996/97) and 43.1 MW at the time of summer peak (1997), based upon information from GMP's response to IBM's Question 1-104 in Docket No. 5983.

Q. How long is the excess capacity expected to last?

1 A. According to GMP's latest forecast, the excess capacity will last well into the next  
2 decade. GMP's most recent forecast of its loads and capacity was provided in response to  
3 IBM's Question 1-104 in Docket No. 5983, and is reproduced here as Exhibit DPS-BEB-4.  
4 I have also summarized this information for winter peak in Exhibit DPS-BEB-2 and for  
5 summer peak in Exhibit DPS-BEB-3.

6 For winter peak, the excess capacity is expected to last until the winter of 2010/11. At  
7 that point the planned retirement of 56.3 MW of gas turbine capacity creates a clear need for  
8 new capacity. The retiring capacity is peaking-type capacity, and not the baseload capacity  
9 that the Hydro Quebec contract provides. This is followed in the next year by the retirement  
10 of Vermont Yankee and Stony Brook, at which point the GMP system would be 129 MW  
11 short of its capacity requirement without new investment.

12 For summer peak, the excess capacity is expected to last until 2009. At that point, just  
13 before the large unit retirements mentioned above, gradual load growth and minor capacity  
14 losses combine to eliminate the current excess.

15 Q. Is this information based upon GMP's latest projection of load and capacity?

16 A. No. The information discussed above and presented in Exhibits DPS-BEB-2 and DPS-  
17 BEB-3 is based upon GMP's November 14, 1996 projection of load and capacity. GMP has  
18 provided a more recent project of load and capacity, dated September 25, 1997, and  
19 reproduced here as Exhibit DPS-BEB-5. The updated information is provided only for the  
20 winter, and is only for five years. The numbers themselves are changed in only three ways:  
21 • there is a 30 MW sale of the Berlin GT#5 to EUA for one year (1997/98);  
22 • there is 6.6 MW less of small hydro capacity; and  
23 • the load forecast is a bit higher (between 9.1 MW and 15.5 MW).

24 The first of these is a short-term transaction that has no effect upon the long-run excess  
25 capacity situation. The aggregate effect of the other two changes is to decrease the amount

1 of excess capacity by about 24 MW. This would suggest that the first winter in which the  
2 purchased Hydro Quebec capacity is fully needed is 2006/07.

3 Q. Do these projections include capacity reserves?

4 A. Yes. All of the projections provided by GMP and all of those presented here include a  
5 reserve requirement based upon NEPOOL's capability responsibility rules. This is assumed  
6 to be 17.5 percent on winter peak demand. The Company indicated that it "expects its winter  
7 capability requirements to remain essentially unchanged as a result of new capability  
8 responsibility rules in NEPOOL" (GMP response to oral interrogatories to Mr. Saintcross,  
9 ODR-DPS-1-1 in Docket No. 5983).

10 Q. How does the Hydro Quebec purchase compare in size to the GMP system?

11 A. At 114 MW, GMP's Hydro Quebec purchase represents nearly a third of GMP's total  
12 capacity requirement. This is a very large share of the Company's resource mix. In general,  
13 an electricity supply mix made up of smaller resources offers diversity and flexibility that are  
14 helpful toward managing risk exposure.

15 Q. How does this information about capacity, peak loads, and reserves figure into a  
16 determination of used and useful?

17 A. The situation with regard to MW of capacity relative to peak loads provides some context  
18 for the economics, which is the major consideration in a determination of whether a resource  
19 is used and useful.



**4. GMP's Hydro Quebec purchase is uneconomic**

Q. Is the Hydro Quebec purchase economic?

A. No. GMP's Hydro Quebec purchase is uneconomic. This is the case even with the Company's own figures. Its poor economics are only partially a result of its being in excess to the GMP's capacity requirement. More importantly, fossil fuel prices are low, regional markets have surplus capacity, and new combined-cycle generating capacity can be brought online at low costs and high-efficiencies.

GMP has provided projections of the net economic losses of the Hydro Quebec purchase (and its other resources) in response to the DPS's Question 2-54 in Docket No. 5983, provided here as Exhibit DPS-BEB-8. The Hydro Quebec losses are summarized in Exhibit DPS-BEB-6 for four cases, each with a different forecast of market prices.

The projections in Exhibit DPS-BEB-8 show net economic losses of GMP's Hydro Quebec purchase over the period 1998 through 2015 ranging from \$87 million to \$269 million (in 1997 cumulative present value dollars). Using the DPS's market price forecasts, the present value economic losses are estimated at \$87 million, \$132 million, and \$219 million, for the high, mid, and low market price forecasts, respectively. GMP indicated in response to DPS Question 2-54 in Docket No. 5983 that, subject to a number of caveats about uncertainty in the estimates, "the Company's current view is that long-term market prices shown as the 'Alternate Low Case' on Attachment DPS 2-54 appear to be a reasonable approximation." Using these market prices, the economic losses of the Hydro Quebec purchase amount to \$269 million (present value).

Q. What discount rate was used in the calculations in Exhibit DPS-BEB-8, and how do the results change with other discount rates?

A. I have backed the implicit discount rate out of the figures in Exhibit DPS-BEB-8. It appears to be 8.3 percent.

1 Economic losses are presented in Exhibit DPS-BEB-6 at two other discount rates. These  
2 are based upon the proposals made in Docket No. 5983. First, I calculated the totals using  
3 the weighted average cost of capital proposed in that case by the Department's witness, Mr.  
4 Stephen Hill – 9.099%. At this discount rate, the net losses decline somewhat to range from  
5 \$83 million (1997 present value) with the Department's "high market price" projection, to  
6 \$254 million (1997 present value) with the forecast favored by GMP.

7 I have also calculated the net losses using a discount rate of 10.019%, corresponding to  
8 the weighted average cost of capital proposed by GMP in Docket No. 5983. At this discount  
9 rate, the range of losses is decreased further still – to a low of \$79 million to a high of \$239  
10 million.

11 Q. Why do your calculations use cost of capital proposals from Docket No. 5983?

12 A. The calculations and Exhibits that I present here in Docket No. 6107 were prepared for  
13 and filed with my testimony in the prior GMP rate case: Docket No. 5983. I have not revised  
14 the calculations for my testimony in this case because it has been less than one year since my  
15 direct testimony in that case was filed and not much has changed to warrant revision to the  
16 economic analysis. As I will explain later, it is too soon to revisit the issue of whether and  
17 to what extent GMP's Hydro Quebec purchase is used and useful.

18 Q. What cost of capital has the Company proposed in this case?

19 A. My understanding is that GMP has proposed a return on equity of 11.25%, which results  
20 in a weighted average cost of capital of 9.35%. This falls within the range of discount rates  
21 that was used in my October, 1997, analysis.

22 Q. How do the economic losses spread out across the projections?

23 A. The pattern of the economic losses can be seen in the graph provided as Exhibit DPS-  
24 BEB-6. With the market price projection favored by GMP, the net annual losses start at

1 about \$22 million, increase to \$30 million in the year 2000, and remain at or above that level  
2 until the last year of the contract. With the Department's "low market price" projection, the  
3 net annual losses also begin at \$22 million. In this case, however, they peak at \$29 million  
4 in the year 2000 and then decline to \$17 million in 2015. In the "mid market price" case, the  
5 net annual losses start at \$17 million, increase to a peak of \$20 million in the year 2000 and  
6 then decline to \$7 million in 2015. In the "high market price" case, the net annual losses start  
7 at \$7 million, increase to \$14 million in the year 2000, and then decline to \$2.7 million in  
8 2015.

9 The purchase is not just uneconomic on a cumulative basis over its contract period. It  
10 loses money in every year in every case.

11 Q. What did the Board conclude in its Order in Docket No. 5983?

12 A. In Docket No. 5983, the Board considered evidence on GMP's Hydro Quebec purchase  
13 that was very similar to the evidence before it today. The Board concluded in that case that  
14 GMP's purchase under the Hydro Quebec contract is not used and useful (Board Order in  
15 Docket No. 5983, pages 259, 260, and 266). The Board judged that for assessing the  
16 magnitude of the economic losses it was reasonable to take the mid-point between the highest  
17 and lowest cases presented in my Exhibit\_\_\_DPS-BEB-6, yielding a total above market cost  
18 of \$178 million (Board Order in Docket No. 5983 page 267). The Board then decreased this  
19 figure by 10 percent "to account for the non-price benefits of the Contract that a sale on the  
20 open market may well produce" (Board Order in Docket No. 5983 page 267).

21 Q. Are there other considerations that would ideally be included in an economic analysis of the  
22 costs of the purchase?

23 A. Yes. There are environmental and risk considerations that might favor one resource over  
24 another. These are the considerations recognized by the Board in making its 10 percent  
25 adjustment.

1 Q. Does 10 percent seem to be a reasonable figure to account for environmental and risk benefits  
2 of the contract?

3 A. I believe that the 10 percent figure used by the Board is quite high given that the  
4 Company has not been able to document any of the claimed non-price benefits. As discussed  
5 in the Prefiled Testimony of Paul Chernick in this docket, GMP's claims of environmental  
6 benefits from this purchase are dubious. With regard to risk, any benefits deriving from the  
7 contract's independence from volatile fossil fuel prices must be weighed against the negative  
8 risk implications of locking into such a large single take-or-pay resource. In assessing the  
9 risks of different resource options, it is well recognized that options involving a firm  
10 commitment to a high fixed cost stream such as the purchase from Hydro Quebec are  
11 undesirable from a risk perspective. Studies of the "option value" of resource commitments  
12 generally find that deferring a decision to lock in to a particular resource has significant real  
13 value.

14 There are also some system operation characteristics of the Hydro Quebec purchase that  
15 differ from a fossil-fueled resource, such as its energy limited nature and its flexibility to ramp  
16 to meet fluctuations in load. A rigorous and detailed economic analysis would include such  
17 aspects of the operation of particular resources. It is safe to say, nonetheless, that such  
18 considerations are unlikely to be on the same scale as the overall economic losses estimated  
19 in the various cases shown in Exhibits DPS-BEB-6, DPS-BEB-7, and DPS-BEB-8.

20 Q. Is it possible that the forecasts of economic losses are wrong?

21 A. Certainly. Any particular forecast is almost certain to be wrong. Here, however, we have  
22 a very broad range of forecasts using a wide range of market prices. It is extremely likely that  
23 market prices for electricity in the New England will fall within the range of the estimates  
24 used here, particularly for the early portion of the study period. These are the years that  
25 figure most heavily into the cumulative present value results. It is, therefore, extremely

1 unlikely that the purchase will end up producing any substantial benefits in any year, and  
2 inconceivable that it could produce enough benefits to end up producing a net cumulative  
3 economic benefit.

4 The relative weight given to different years in the present value calculation can be  
5 illustrated with the \$28.5 million net annual loss in the year 2015 in GMP's favored case.  
6 Applying the 9.099% discount rate to express this in 1997 present value dollars reduces this  
7 to \$5.2 million. It is easy to see that even if large annual benefits were to accrue in the late  
8 years of the contract (something that we do not expect to be the case) they would have to be  
9 enormous in order to offset the losses in the early years.

10 It is also important to note that on the high side, there is an effective backstop to the  
11 market price. That is, the cost of generation from a new combined-cycle generator effectively  
12 sets a limit on how high regional electricity prices can rise. If the market prices for electricity  
13 push above the cost of new generation for any substantial time, then new entrants to the  
14 market should serve to bring the prices back down to within the range of those forecast here.  
15 That is not to say that prices will not temporarily fluctuate above the backstop – but that over  
16 the long-view, which is of importance to the overall economics of this contract, market forces  
17 should control the prices. Moreover, the state regulators New England have been working  
18 with the new Independent System Operator (ISO-NE) to put in place procedures for  
19 monitoring and mitigating market power that should serve to contain market prices to  
20 something close to competitive levels.

21 Q. Are there any new market price projections that you would like to bring to the Board's  
22 attention?

23 A. Yes. The U.S. Department of Energy has prepared an analysis of electricity market prices  
24 by region. That forecast, available in a paper titled "Competitive Electricity Prices: An  
25 Update," by J. Alan Beamon shows prices for generation in the New England market starting  
26 at \$36.30/MWH in 2005 (in 1996 dollars) and declining gradually in real terms to

1           \$34.55/MWH in 2015 (also in 1996 dollars). This would fall between the “DPS Low” and  
2           “DPS Mid” market price projections.

3       Q.     What is GMP’s current view of market prices?

4       A.     GMP’s filing in this case shows market purchases available at an average price of  
5           \$28.16/MWH in 1998 and 27.85/MWH in 1999 (Schedules 4 and 5 of Attachment D, of the  
6           Company’s filing documents). The Company’s response to Question 4 of the Department’s  
7           5th Set of Information Requests also provides projections of on-peak and off-peak energy.  
8           It is not clear to me whether these include capacity, or how they were developed. GMP’s  
9           response to the same question indicates that “GMP has been provided market prices for  
10          capacity and energy by prospective suppliers as part of its recent all-requirements service  
11          solicitation.” The connection between the price projections provided by GMP and the “all-  
12          requirements” solicitation is not clear to me. Nonetheless, these are the price projections that  
13          I have been able to obtain from the Company, and I reproduce them here in Exhibit\_\_\_DPS-  
14          BEB-10. I have calculated the simple average assuming that the mix of on-peak and off-peak  
15          energy is 50/50, and compared the prices with the four market price scenarios analyzed  
16          previously. It appears from this comparison, that the Company’s current view of market  
17          prices would put them between the “DPS Low” and “DPS Mid” in the short term, and  
18          between the “DPS Low” and the “Alternate Low” in the longer term. Further investigation,  
19          to determine the appropriate load factor, and whether the prices include capacity, is  
20          warranted.

## **5. Vermont's policy is to share uneconomic costs**

Q. What is Vermont's policy for ratemaking in the event that an investment turns out to be uneconomic?

A. The Board has developed a clear policy for the treatment of resources that are prudent but not “used and useful.” It takes an economic view. That is, simply operating, or even being needed to meet capacity requirements is not sufficient for a resource to be deemed “used and useful.” Rather, a resource must be economic. The Board has articulated its policy in several orders. The Board’s order in Docket No. 5701/5724 quoted its prior order in Docket No. 5630 as follows:

Ratemaking decisions in Vermont have been consistent with those federal and other state determinations. Our decision in Docket 5132 examined those precedents in detail. . . .

...

In sum, six past precedents offer a consistent set of rules for calculating the rate effects of failed investments in major power plants:

- (I) if costs are imprudent, they cannot be included in rates;
- (ii) if costs exceed the degree to which projects are used and useful, only one-half of that excess is included in rates; and
- (iii) if an arms-length sale has occurred, the net benefits from that sale can be treated as a measure of the degree to which the project is used and useful. (Board Order in Docket No. 5701/5724, page 124, quoting Order in Docket 5630 et al., pages 51 and 52).

Q. The Board’s language quoted above refers to “failed investments in major power plants.” Should the policy apply to major purchased power contracts as well?

1 A. Yes, the Board's used and useful policy should apply to purchased power contracts such  
2 as GMP's purchase from Hydro Quebec. While there are some differences between a  
3 purchased power commitment and a power plant investment, it is important that both be  
4 treated in a way that is roughly consistent in order to provide an overall policy that is coherent  
5 and efficient.

6 Q. Would a 50/50 sharing of uneconomic costs always be appropriate?

7 A. Not always. I would think that allocations other than 50/50 could be appropriate in  
8 particular circumstances. For example, in the case of a power purchase contract, normally  
9 treated as a flow-through rather than put in ratebase, it might be appropriate to use a different  
10 allocation.

11 Q. What did the Board decide with regard to these issues in the recent GMP rate case?

12 A. In Docket No. 5983, the recent GMP rate case, the Board considered a great deal of  
13 evidence on used and useful as a regulatory policy generally, and on the application of used  
14 and useful to GMP's Hydro Quebec purchase. The Board found that GMP's Hydro Quebec  
15 contract was used but not useful (Board Order in Docket No. 5983 page 260). The Board  
16 considered and rejected the arguments against applying a used and useful standard to  
17 contracts, stating that "Appropriate application of the used-and-useful standard to non-  
18 investment expenditures does not create a new set of asymmetric risks for which the  
19 company's shareholders have not been compensated" (Board Order in Docket No. 5983 page  
20 260). The Board concluded that 50/50 sharing of the uneconomic portion of the contract  
21 costs (after accounting for imprudence) was the appropriate ratemaking for GMP's Hydro  
22 Quebec purchase (Board Order in Docket No. 5983 page 266).

23 **6. The Board's policy of sharing uneconomic resource costs is good policy**



1 Q. In your view, is the Board's policy for sharing the costs of resources that are not used and  
2 useful fair and appropriate?

3 A. Yes. The Board's approach to ratemaking for uneconomic resources is fair and  
4 appropriate. Electric utility investors typically receive a return on their investment  
5 considerably above the return on low-risk investments such as treasury bills. The "risk  
6 premium" compensates investors for occasional circumstances in which investments fail  
7 economically. It is not the role of utility regulators to shield utilities from market risks.  
8 According to Bonbright:

9 Regulation, it is said, is a substitute for competition. Hence, its objective should be  
10 to compel a regulated enterprise, despite its possession of partial or complete  
11 monopoly, to charge rates approximating those which it would charge if free from  
12 regulation but subject to competition. In short, regulation should not only be a  
13 substitute for competition, but a closely imitative substitute" (page 93, James C.

14 Bonbright, *Principles of Public Utility Rates*, Columbia University Press, 1961).

15 Customers did not make the decisions to commit to the purchase from Hydro Quebec, nor  
16 are customers responsible for developments in electric generating technologies and fossil fuel  
17 markets that have rendered the purchase badly uneconomic. Under the circumstances, a  
18 sharing of the excess costs would be fair and appropriate.

19 **7. This not an appropriate case for the Board to reconsider whether GMP's**  
20 **Hydro Quebec purchase is used and useful**

1 Q. Should the Board reconsider its rate treatment for GMP's Hydro Quebec purchase in this  
2 case?

3 A. No. The Board just decided upon the appropriate rate treatment for GMP's Hydro  
4 Quebec purchase in its Order in Docket No. 5983, dated February 27, 1998. GMP's new  
5 case was filed right away, with no particular reason to believe that the appropriate rate  
6 treatment has changed. The prefiled testimony of GMP witnesses Reed, Oliver, and Higgins  
7 brings forward no evidence that the economics of the purchase have improved since the  
8 record in Docket No. 5983.

9 Q. Does Mr. Reed's testimony present new evidence relevant to whether GMP's Hydro Quebec  
10 contract is used and useful?

11 A. No. GMP's witness Reed offers prefiled testimony arguing against the application of an  
12 economic used and useful standard, quoting extensively from documents from other states.  
13 Mr. Reed would have Vermont regulators dispose of the State's long history of applying a  
14 used and useful standard, and replace it with a policy whereby utilities are guaranteed full  
15 recovery of any prudently made investment no matter how economically disastrous. Mr.  
16 Reed does repackage some of the arguments made by the Company in Docket No. 5983, but  
17 his testimony in this case offers little new information of any relevance to Vermont regulatory  
18 policy or GMP's Hydro Quebec contract.

19 Q. What does Mr. Reed present in this case, with regard to whether and to what extent GMP's  
20 Hydro Quebec purchase is used and useful?

21 A. Mr. Reed takes a variety of approaches in arguing that the Board's policy on used and  
22 useful is unfair and inappropriate, and that its application to GMP's Hydro Quebec purchase  
23 is unfair and inappropriate. These arguments made in Mr. Reed's testimony in this case are  
24 the same ones made by GMP witnesses in the last case. For example, Mr. Reed's argument  
25 that applying a used and useful standard is asymmetrical treatment of risk (Reed pft. page 24)

1 was made in December, 1997, by Dr. Laber in his rebuttal testimony in Docket No. 5983,  
2 page 5), and was rejected by the Board (Order in Docket No. 5983, page 260). Mr. Reed's  
3 argument that if a resource that is "in service" than it should be considered "used and useful"  
4 (pft. page 16) was made in December by Dr. Laber (rebuttal testimony in Docket No. 5983,  
5 page 7) and by Dr. Williamson (supplemental rebuttal testimony in Docket No. 5983, page  
6 14), and was rejected by the Board (Order in Docket No. 5983, page 260). Mr. Reed's  
7 argument that the "risk-sharing approach is generally inappropriate and inequitable because  
8 it...relies on hindsight" (Reed pft. pages 18 and 20) was made in December by Dr. Williamson  
9 (supplemental rebuttal testimony in Docket No. 5983, pages 14 to 17), and rejected by the  
10 Board (Order in Docket No. 5983, pages 256 to 259). Mr. Reed's argument that the  
11 application of a used and useful standard to the Hydro Quebec contract is "a radical change  
12 in Vermont ratemaking standards" for which the Board "must give the utilities and customers  
13 fair warning" (Reed pft. pages 19, and 28 through 30) is an extreme version of the point made  
14 in December by Dr. Levy (rebuttal testimony in Docket No. 5983, pages 9 and 10), and  
15 rejected by the Board (Order in Docket No. 5983, page 256, 257, and 261). Mr. Reed's  
16 argument that it is especially inappropriate to apply Vermont's used and useful standard to  
17 a contract (Reed pft. page 34) was made in December by Dr. Levy (rebuttal testimony in  
18 Docket No. 5983, page 6) and by Dr. Williamson (supplemental rebuttal testimony in Docket  
19 No. 5983, page 16), and rejected by the Board (Order in Docket No. 5983, pages 257, 260  
20 and 261). In short, Mr. Reed's arguments have been considered and rejected, within the last  
21 year.

22 Quite a large portion of Mr. Reed's testimony in this case is taken up by his references to  
23 decisions made in other states. Specifically, Mr. Reed's testimony refers to court or  
24 regulatory commission decisions in Kansas (pages 17 and 18), New York (pages 21, 27, and  
25 29), Missouri (page 21), Massachusetts (pages 22, 31, and 32), Montana (pages 27, 32, and  
26 33), and Illinois (page 29). All of these decisions are identified with dates of 1985 or 1986,  
27 with the exception of Missouri, which is incorrectly identified as 1995, but was, in fact a 1985

1 decision. Mr. Reed's testimony on used and useful also calls upon a 1923 opinion of  
2 Supreme Court Justice Brandeis (pages 9 and 25). None of this information is new since the  
3 record closed in Docket No. 5983.

4 Mr. Reed does offer a new item in his recommendation that if the contract is found to be  
5 not used and useful, then "shareholders should be assigned no more than 10% of the so-called  
6 above market costs" (pft. page 43). This is not, however, based upon any new market or  
7 regulatory policy developments. It is simply "based on his judgment as a regulatory expert"  
8 (GMP response to the Department's Second Set of Information Requests, Question 426).

9 Q. Do Oliver and Higgins present new evidence on whether GMP's Hydro Quebec purchase is  
10 used and useful?

11 A. Sort of. GMP's witnesses Oliver and Higgins present an analysis of the costs and benefits  
12 of GMP's Hydro Quebec contract in their Exhibit WJO/JEH-8. This calculation, as discussed  
13 in the Prefiled Testimony of Paul Chernick in this Docket, greatly exaggerates any  
14 environmental benefits of the contract, by assuming (1) that the contract resulted in  
15 incremental construction of hydro electric generating capacity in Quebec that would not have  
16 taken place in the absence of the contract, (2) that the incremental hydro construction can be  
17 credited throughout the contract period to 2015, and (3) that the hydro itself has relatively  
18 minor environmental damages (\$3/MWH for hydro generation compared with about  
19 \$40/MWH for environmental damages from air pollution for marginal New England fossil  
20 generators). Oliver and Higgins do not adequately support these assumptions. Oliver and  
21 Higgins examine the economics of GMP's Hydro Quebec purchase using the market price  
22 forecast implied in the Board's recent order (mid-way between the highest and lowest  
23 projections in the record in that case). For this market price forecast, even with the  
24 overstated environmental benefits, Oliver and Higgins find that the contract fails to produce  
25 net economic benefits. Rather, it results in a \$49 million (1997 cumulative present value  
26 dollars) loss.

1           The analysis presented by Oliver and Higgins in this case, while “new” and certainly  
2 innovative, flies in the face of the Board’s finding that a ten percent adjustment for non-price  
3 benefits is appropriate (Board Order in Docket No. 5983 page 267). Oliver and Higgins  
4 produce a cost-benefit analysis, in which their non-price adjustment amounts to a full 77  
5 percent of the projected economic losses, and yet they offer no support for their  
6 environmental externalities figures. They merely point to the Department’s “Statewide  
7 Energy Efficiency Plan” (Oliver and Higgins pft. page 48 at 21).

8           Exhibit\_\_\_DPS-BEB-11 summarizes the calculation that Oliver and Higgins did to  
9 attempt to demonstrate that GMP’s Hydro Quebec purchase is used and useful, given the  
10 Board’s implied market prices. The figures in the Exhibit for the cumulative present value  
11 totals are directly from Exhibit WJO/JEH-8. Oliver and Higgins did not, however, show  
12 present value totals separately for direct costs and for externalities. I calculated these by  
13 adding columns to the spreadsheet provided by Oliver and Higgins, and using their discount  
14 rate assumptions. Please note that I do not endorse their approach to discounting, or the  
15 numbers that they used in their calculations. I made this Exhibit simply to illustrate the large  
16 extent to which their externalities assumptions drive their finding of relatively small losses  
17 from the HQ contract.

18   Q.   When is it appropriate for a regulatory commission to consider whether and to what extent  
19 a resource is used and useful?

20   A.   In my Prefiled Rebuttal Testimony in Docket No. 5983 I stated that “Certainly it is  
21 appropriate to consider whether and to what extent a resource is used and useful in the  
22 context of the first rate case in which a substantial amount of the costs associated with the  
23 resource are requested to be put into rates.” I went on to explain that

24                   “In addition, there may be key points over time at which it is  
25                   appropriate to consider the economics. For example, in a  
26                   transition to a competitive market, the economics of resources

1           should be examined as part of a stranded cost determination...  
2           Also, there are likely to be points at which an aging resource is  
3           approaching technological or economic obsolescence. In such  
4           cases, it would be appropriate to consider whether and to what  
5           extent the resource is still used and useful for serving customers.  
6           Major changes in resource performance or in relevant market  
7           conditions can be appropriate points for consideration of whether  
8           a particular resource is used and useful. The Department does  
9           not, however, envision a regular assessment of used and useful,  
10          and certainly not on an annual basis.” Biewald prefiled rebuttal  
11          testimony page 6 line 16 to page 7 line 2.

12           None of these conditions apply. There has been no major change in the contract’s cost  
13          or performance and no major change in its current or expected market value. GMP has  
14          merely hired new consultants (John Reed, Wayne Oliver, and John Higgins) to present the  
15          same arguments that were made in testimony filed less than a year ago (in December 1997)  
16          by three other consultants (Paul Levy, Gene Laber, and J. Peter Williamson).

17       Q.     What action do you recommend that the Board take in this case with regard its used and  
18               useful policy and GMP’s Hydro Quebec purchase?

19       A.     None. I believe that the Board should decline this opportunity to revisit its well-  
20               considered policy on used and useful, and the Board should decline to make a new finding  
21               with respect to the economics of GMP’s Hydro Quebec purchase. To reconsider these issues  
22               now, in the absence of a compelling reason to do so, would violate the Board’s policy  
23               articulated in the 1994 CVPS case in which the Board rejected Dr. Rosen’s proposed  
24               adjustment stating that it would be inappropriate to apply a “year-by-year market test.”  
25               Board Order in Docket Nos. 5701/5724 page 126.

1           If the Board were to decide to ignore its policy, and to consider the economics of GMP's  
2           Hydro Quebec purchase again already in this case, then I recommend that the Board find that  
3           the costs and benefits of the contract have not changed significantly since last year's analyses,  
4           that the projected economic losses in the range of \$79 million to \$269 million are expected  
5           to accrue, that the contract is not used and useful, and that the economic burden be shared  
6           between shareholders and customers.

7           Q.       Does this conclude your testimony?

8           A.       Yes.